CLAIMS

13. A method for coding a sequence of pictures where each picture is divided into blocks of picture elements, each element of a block being represented by at least a digital value and wherein two kinds of coding are used in order to reduce the amount of data; inter coding which takes into account a corresponding block in a previous picture and intra coding which is independent from a previous picture; the blocks being coded so that a further reduction of data is obtained by transmitting high spatial frequencies with less weight than low spatial frequencies by using weighting coefficients; wherein said weighting coefficients are variable as a function of the quantity of information to be transmitted.

14. A method according to claim 13, wherein said weighting coefficients corresponding to high spatial frequencies are reduced when the quantity of information to be transmitted decreases.

15. A method according to claim 13, wherein a picture is coded by performing a cosine transform on the picture blocks to provide blocks of coefficients.

16. A method according to claim 14, wherein a picture is coded by performing a cosine transform on the picture blocks to provide blocks of coefficients.

17. A method for coding a sequence of pictures, wherein each picture is divided into blocks of picture elements, each block being represented by a luminance block and two chrominance blocks and wherein an inter coding takes into account a previous picture and an intra coding is independent from the previous picture, wherein same coding (inter or intra) is applied to the luminance blocks and to the chrominance blocks.

18. A method for coding a sequence of pictures, wherein each picture is divided into blocks of picture elements, each block being represented by a luminance block and two chrominance blocks, wherein an inter coding takes into account a previous picture and an intra coding is independent from a previous picture and wherein, using weighting coefficients, high spatial frequencies are less weighted than low spatial frequencies and said weighting coefficients have the same values, apart from the application of a multiplication constant, for luminance block and chrominance blocks.

19. A method for decoding a sequence of pictures coded in such a way that each point of a picture is represented by at least a digital value wherein, for a first kind of pictures, coding takes into account a previous picture in order to reduce the amount of data and, for a second kind of pictures, coding is independent from a previous picture, the pictures being coded so that a further reduction of data is obtained by transmitting high spatial frequencies with less weight than low spatial frequencies by using weighting coefficients, wherein the decoding of these pictures comprises a step of inverse weighting using weighting coefficients, these coefficients being variable as a function of the quantity of information used for the coding.

20. A method according to claim 19, wherein weighting coefficients used for inverse weighting and corresponding to high spatial frequencies are smaller when the quantity of information used for the coding is decreased.

21. A method according to claim 19 wherein the picture is coded by splitting it into blocks and performing a cosine transform on the picture blocks to provide blocks of coefficients, wherein the decoding comprises a step of inverse cosine transform on the picture block.

22. A method according to claim 20 wherein the picture is coded by splitting it into blocks and performing a cosine transform on the picture blocks to provide blocks of coefficients, wherein the decoding comprises a step of inverse cosine transform on the picture block.

23. A method for decoding a sequence of pictures coded in such a way that each picture is divided into blocks of picture elements, each block being represented by a luminance block and two chrominance blocks and that an inter coding takes into account a previous picture and an intra coding is independent from the previous picture, wherein the same decoding (inter or intra) is applied to the luminance blocks and to the chrominance blocks.

24. A method for decoding a sequence of pictures coded in such a way that each picture is divided into blocks of picture elements, each block being represented by a luminance block and two chrominance blocks and that an inter coding takes into account a previous picture and an intra coding is independent from a previous picture, the coding using weighting coefficients, high spatial frequencies being less weighted than low spatial frequencies, comprising a step of inverse weighting of the spatial frequencies, the weighting coefficients used for this inverse weighting having the same values, apart from the application of a multiplication constant, for luminance block and chrominance blocks.

25. Device for encoding a series of pictures, by transformation, each picture element being represented by a brightness value, a red color difference value and a blue color difference value, comprising:

means of encoding (6, 7) for computing a block of transformation coefficients, for each block of brightness values and for each block of color difference values; and for multiplying these coefficients by a coefficient called the weighting coefficient and by a coefficient called the quantification coefficient, the first being a function of the rank of the coefficient in its block, and the second being identical for all

of the coefficients of a block and being a function of the quantity of information to be transmitted;

means for regulating the quantity of information to be transmitted;

wherein the regulating means comprise:

a common memory (9) for the data to be transmitted corresponding to the brightness values and to the color difference values;

means (38, 40, 8, 14, 15) for computing a quantification coefficient value and a weighting coefficient value, respectively identical, apart from the application of a multiplication constant, for the brightness and for the color differences.

26. Device according to Claim 25, characterized in that the means (6, 7, 14, 15) for computing a quantification coefficient value comprise:

means (38, 40) for determining the cost of encoding of the coefficients;

means (15) for computing the quantity of information transmitted;

means (14) for computing the quantity of information to be transmitted, from the costs of encoding and from the quantity of transmitted information;

and means of computation (8) for determining a quantification coefficient and a weighting coefficient from the quantity of information to be transmitted.

27. Device according to Claim 26, wherein the means of computation for supplying a quantification coefficient value and a weighting coefficient value further more comprise:

first means (16) for computing the average brightness over a plurality of areas located at the periphery of each block of picture elements, from the series of brightness values representative of this picture element block;

second means (17) for computing, for each block of picture elements, the minimum value from among the average values of brightness computed by the first means (16);

third means (18, 8) for comparing this minimum value with a plurality of predetermined threshold values in order to allocate the block to a category depending on the result of these comparisons, and for deriving from this a weighting coefficient and a quantification coefficient depending on the category thus determined.

28. Device for decoding a series of pictures by transformation, each block of picture elements being represented by a block of brightness values, a block of red color difference values and a block of blue color difference values which are encoded in the form of transformation coefficients comprising:

means (60, 70 to 73, 95, 96) for storing the data to be decoded;

means of decoding (74, 80, 81, 90 to 93) for multiplying the coefficients of each block by a coefficient called the inverse weighting coefficient and by a coefficient called the inverse quantification coefficient; for computing a block of brightness values, respectively of color difference values, from a block of transformation coefficients;

wherein the means for storing the data to be decoded comprise: a common memory (60) for the data to be decoded corresponding to the brightness values and to the color values;

and wherein the means of decoding comprise means (90 to 93, 74) for computing a quantification coefficient value, and a weighting coefficient value respectively, which are identical apart form the application of a multiplication constant, for the brightness and for the color.

29. Decoding device according to Claim 28, wherein the means (90 to 93,74) for computing a quantification coefficient value and a weighting coefficient value comprise:

means (92) for computing the quantity of information received by the decoding device;

means (90, 91) for computing the quantity of information remaining to be decoded, from the quantity of information received by the decoding device and from the quantity of information read from the buffer memory (60);

means (74) for computing an inverse quantification coefficient value and an inverse weighting coefficient value from the quantity of information remaining to be decoded.

30. Decoding device according to Claim 29, wherein the means (90 to 93,74) for computing a quantification coefficient value and a weighting coefficient value furthermore comprise a decoder (93) for decoding a binary word accompanying the encoded data corresponding to each block of picture elements, this word representing the difficulty of encoding the block; and wherein said means (90 to 93, 74) compute the values of these coefficients also as a function of the value of this binary word.

31. A method for coding a sequence of pictures wherein each picture is divided into blocks of picture elements and a cosine transform is performed on the picture blocks to provide blocks of coefficients, the coding using a zigzag path to define the order to send the coefficients of each block and a variable length, or Huffman, code, wherein the variable length or Huffman code comprises at least two coding trees, one for coefficients which are preceded by a sequence of zero values and the other for coefficients which are not preceded by a sequence of zero values.

32. A method for coding a sequence of pictures wherein each picture is divided into blocks of picture elements and a cosine transform is performed on the picture blocks to provide blocks of coefficients, wherein the quantification coefficient is computed by taking into account at least a luminance value in the block in order to make less visible the division of the picture into blocks.

33. A method for coding a sequence of pictures wherein each picture is divided into blocks of picture elements and a cosine transform is performed on the picture blocks to provide blocks of coefficients, wherein at least a weighting coefficient is computed by taking into account at least a luminance value in the block in order to make less visible the division of the picture into blocks.

34. A method according to claim 31 further comprising the step of inserting, between encoded data corresponding to two consecutive pictures, a plurality of words called picture separators, each picture separator comprised of a fixed pattern which cannot be imitated by any licit concatenations of encoded data, and a binary word representing the rank of the separator in question modulo a fixed number.

35. A method according to claim 32 further comprising the step of inserting, between encoded data corresponding to two consecutive pictures, a plurality of words called picture separators, each picture separator comprised of a fixed pattern which cannot be imitated by any licit concatenations of encoded data, and a binary word representing the rank of the separator in question modulo a fixed number.

36. A method according to claim 33 further comprising the step of inserting, between encoded data corresponding to two consecutive pictures, a plurality of words called picture separators, each picture separator comprised of a fixed pattern which cannot be imitated by any licit concatenations of encoded data, and a binary word representing the rank of the separator in question modulo a fixed number.

37. A method according claim 31 further comprising the step of inserting, between encoded data corresponding to two consecutive blocks, a binary word called the interblock separator, the interblock separator comprised of a fixed pattern which cannot be imitated by any licit concatenations of encoded data, a binary word representing the rank of the following block, modulo a fixed number, and a binary word representing the sum of the rank of the following block and of the number of events represented by the encoded data of the following block, modulo a fixed number.

38. A method according claim 32 further comprising the step of inserting, between encoded data corresponding to two consecutive blocks, a binary word called the interblock separator, the interblock separator comprised of a fixed pattern which cannot be imitated by any licit concatenations of encoded data, a binary word representing the rank of the following block, modulo a fixed number, and a binary word representing the sum of the rank of the following block and of the number of events represented by the encoded data of the following block, modulo a fixed number.

39. A method according claim 33 further comprising the step of inserting, between encoded data corresponding to two consecutive blocks, a binary word called the interblock separator, the interblock separator comprised of a fixed pattern which cannot be imitated by any licit concatenations of encoded data, a binary word representing the rank of the following block, modulo a fixed number, and a binary word representing the sum of the rank of the following block and of the number of events represented by the encoded data of the following block, modulo a fixed number.

40. A method for decoding a sequence of pictures coded in such a way that each picture is divided into blocks of picture elements and a cosine transform is performed on the picture blocks to provide blocks of coefficients, wherein, when a coefficient block of a current picture to decode is detected erroneous, this block is replaced by a similar block.

41. A method for decoding a sequence of pictures coded in such a way that each picture is divided into blocks of picture elements and a cosine transform is performed on the picture blocks to provide blocks of coefficients, coding also using a zigzag path to define the order to send the coefficients of each block and a variable length, or Huffman, code, comprising a step of variable length decoding or Huffman decoding using at least two tables, one for coefficients which are preceded by a sequence of zero values and the other for coefficients which are not preceded by a sequence of zero values.

42. A method for decoding a sequence of pictures coded in such a way that each picture is divided into blocks of picture elements and a cosine transform is performed on the picture blocks to provide blocks of coefficients, comprising a step of inverse quantification using quantification coefficients which are computed by taking into account at least a luminance value in the block in order to make less visible the division of the picture into blocks.

43. A method for decoding a sequence of pictures coded in such a way that each picture is divided into blocks of picture elements and a cosine transform is performed on the picture blocks to provide blocks of coefficients, comprising a step of inverse weighting using at least a weighting coefficient computed by taking into account at least a luminance value in the block in order to make less visible the division of the picture into blocks.